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notes on the
AGRICULTURAL
ECONOMIES OF THE
FAR EAST

II South Asia

Economic Research Service

UNITED STATES DEPARTMENT OF AGRICULTURE

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Effective April 3, 1961, the responsibility for the work in the Regional Analysis Division was transferred from the Foreign Agricultural Service to the Economic Research Service. This report, originally issued June 1960, as FAS-M-85, is now re-issued, without change in text, by the new agency.

April 1963

This is the second in a series of 5 publications dealing with the agricultural economies of the Far Eastern area. These 5 publications deal with the following sub-regions.

- I Northeast Asia
- II South Asia
- III Southeast Asia
- IV Oceania
- V Asian Communist Countries

Prepared by Far East Analysis Branch

NOTES ON THE AGRICULTURAL ECONOMIES OF THE FAR EAST

II. SOUTH ASIA

AFGHANISTAN

POPULATION

Total - 13.4 million (1959).

Rural - 90 percent.

Annual rate of growth - 1 percent.

Density - 50 persons per square mile.

ECONOMIC SETTING

Gross national product - \$620 million (1957).

Agricultural share of GNP - 72 percent.

Estimated average annual rate of growth - 3 percent.

Per capita GNP - \$47; few if any countries are lower.

Gold and foreign exchange holdings - \$65 million in 1957, rising steadily since 1954.

Economic assistance - As of June 30, 1958, total U.S. assistance has amounted to \$120 million. The Soviet Union has provided extensive aid in addition to a \$100 million line of credit.

Trade as percent of GNP - 9 percent.

Balance of payments - \$2 million surplus in 1956; usually a small annual surplus.

PHYSICAL CHARACTERISTICS

Location - Afghanistan is a landlocked country bordered by Russia on the north, Pakistan on the east and south, and Iran on the west.

Area - 250,957 square miles, or 161 million acres; 7 percent smaller than the State of Texas.

Agricultural area - About 4 percent, or 6 million acres (including land in crops and orchards).

Arable land per capita - 0.45 acre.

Topography - The outstanding topographic feature is the Hindu Kush Mountain Range, a continuation of the Himalayas. This range extends across the country from the northeastern corner to Herat in the west and divides the country into two parts. The Helmand Valley, located in the southwest, occupies nearly half of the total area of the country.

Climate - The climate north of the Hindu Kush is intensely hot in summer and cold in winter. The climate of the plains of Jalalabad approaches tropical conditions and the area is noted for its intense heat in summer. Annual precipitation is between 10 and 15 inches in most areas except the southwest, where it is 5 inches or less.

Soils - The soils along the mountain rivers are deeper and richer than the soils along the lower Helmand as it goes through the vast desert region. Most of the soils cannot absorb the water from the brief flash floods of snow thaws or from the few scattered rains. Only the land along the rivers can be cultivated without irrigation.

In the upper Helmand Valley the better soils are deep silty or fine sandy alluvial or windborne deposits that are inherently fertile and relatively permeable.

AGRICULTURAL PRODUCTION

Land tenure - The nomadic nature of the inhabitants in many places has prevented the development of definite systems of land tenure. In settled non-tribal areas, the land owned by individuals passes from father to son in accordance with Muslim law of inheritance. Formal tenancy rights are unknown. Tenants farm land at the will of the landowners. The produce is divided proportionately according to who provides the five factors of production--labor, land, water, seed, and equipment.

Agricultural self-sufficiency - Produces large agricultural export surplus.

Principal crops - Wheat, rice, corn, and cotton.

TABLE 1.--Principal crops: Production in Afghanistan, 1958

Crop	Production
	<u>1,000 m. t.</u>
Wheat	2,100
Rice	275
Potatoes	120
Corn	650
Cotton	19

Livestock industry - In contrast with many other Far Eastern countries where livestock are of minor importance, the Afghan livestock industry constitutes a major segment of the economy. Nearly all agricultural exports are products of the livestock industry. Afghan farmers rely upon applications of manure to maintain soil fertility as they are unfamiliar with commercial fertilizers. A scarcity of wood results in the burning of much of the animal manure as fuel.

TABLE 2.-- Livestock: Number in Afghanistan, 1958

Type	:	Number
	:	<u>Million</u>
Native sheep.....	:	9.0
Goats.....	:	6.0
Karakul sheep.....	:	5.0
Cattle.....	:	2.5
Horses.....	:	.5
Camels.....	:	.3
Mules.....	:	.2
Yaks.....	:	.002

Karakul skins and wool are two of the country's major foreign exchange earners. The United States imports about half the karakul production, which runs in excess of a million skins annually.

Ratio of input factors - Farming is labor intensive with little capital being used. Commercial (chemical) fertilizers are relatively unknown.

Irrigation - The total land that is irrigated is unknown, but all crops, except some grown on higher elevations, must be irrigated. Most of the irrigation is carried on by diverting water from snowfed rivers or by Kareses. (Kareses are wells dug at the foot of hills to a depth where underground water is found; then by a series of tunnels and wells, the water is conducted underground down slopes to the plains where it is needed.) The development of the Helmand Valley, which has been actively under way for several years, is primarily an irrigation and land development project with incidental provisions for flood control and power development. About one-half million acres are included in this project.

Multiple cropping - Double cropping is not commonly practiced because of low rainfall and a lack of experimentation with crops to determine proper sequence and combinations.

Mechanization - In 1956 only 32 tractors were reported, and these were all owned by 2 commercial farming interests.

The need for improved hand tools is more important than the introduction of expensive farm machinery, because the plots of land cultivated are too

small in general for large modern farm equipment. Steel-tipped plows, seeder units, and scythes have been introduced.

AGRICULTURAL TRADE

TABLE 3.--U.S. - Afghanistan agricultural trade: Value of imports and exports, 1958

U.S. exports to Afghanistan	Value	U.S. imports from Afghanistan	Value
	Million		Million
	dollars		dollars
Wheat	1.7	Persian lamb	10.8
Dairy products .....	.02	Wool .....	.7
Wheat flour .....	.02	Cashmere .....	.2
Vegetables & prep. ....	.02	Camel hair .....	.02
Other agricultural .....	.04	Other agricultural .....	.78
Total agricultural	1.8	Total agricultural	12.5
Other	8.4	Other .....	.2
Grand total	10.2	Grand total	12.7

FOOD CONSUMPTION

Figures on food consumption in Afghanistan can only be approximated, as production estimates are available for only a few products, and utilization data have never been collected. A food balance study of Afghanistan for the consumption year 1954-55 shows a daily per capita consumption of 2,400 calories.

This is relatively high by Asiatic standards. Compared with food balances studies for Iran, Iraq, West Pakistan, and Turkey for the same year only Turkey exceeded Afghanistan. More than half of the total consumption in Afghanistan consists of cereals.

POLITICAL SETTING

Type of government - Afghanistan has been a constitutional monarchy since 1929.

Political history - Afghanistan achieved complete sovereignty in 1921 after nearly a half century of British rule.

CEYLON

POPULATION

Total - 9.4 million (1958).

Rural - 7.9 million, or 84 percent.

Rate of growth - 2.6 percent annually.

Density - 374 per square mile.

ECONOMIC SETTING

Gross national product - \$1.22 billion (1958).

Agricultural share of GNP - 58 percent (1958).

Rate of growth - 2.6 percent annually.

Per capita GNP - \$130 (1958); higher than in most of the Far East.

Gold and foreign exchange holdings - \$196 million (1958).

Economic assistance - About \$4 million annually.

Trade as percent of GNP - 59 percent (1958).

Trade balance - \$1 million deficit in 1958; balance has fluctuated erratically from deficit to surplus over the last few years.

PHYSICAL CHARACTERISTICS

Location - The island of Ceylon is located in the Indian Ocean off the southeast coast of India between the coordinates of 5° - 10° north latitude. The north-south elongated island is 270 miles long and 140 miles across at the widest point.

Area - 25,000 square miles, or 16.0 million acres, slightly larger than West Virginia.

Agricultural area - 3.6 million acres, or 22.5 percent.

Arable land per capita - 0.4 acre.

Topography - The centrally located mountainous area has an average elevation of 3,000-7,000 feet. Surrounding this area is an upland region ranging from 1,000-3,000 feet in elevation. The remainder of the island is a coastal plain, quite wide to the north but narrow to the east and west.

Climate - Ceylon's location between the Equator and the Asian land mass results in a tropical monsoon climate. The annual mean temperature is relatively high, ranging from 80°-82° F. On the basis of the average annual rainfall, the island may be divided into two zones, the Wet Zone with an annual rainfall of 133 inches and the Dry Zone with 64 inches. The Wet Zone is located in the southwest quarter of the island which contains the Hill Country. The remainder of the island is in the Dry Zone.

Soils - Ceylon lies within the broad zone of latosolic soils, which circles the earth at the Equator, Latosols occur on four-fifths of the area of the island. Other soils that are found include ground water laterite, terra rossa, alluvial, and regosol groups.

AGRICULTURAL PRODUCTION

Farm size and tenancy - There are two forms of farm ownership--small peasant holdings and corporative, or privately owned, plantations.

Land ownership patterns in peasant agriculture are complex. As the pressure of population has increased, land holdings have been repeatedly subdivided until many plots are so small as to make cultivation inefficient. It is not uncommon for a farmer to own several scattered parcels of land totaling less than 2 acres. In general the fragmentation of holdings has occurred to a greater extent in the more heavily populated Wet Zone than in the Dry Zone.

Agricultural self-sufficiency - Ceylon is a net exporter of agricultural commodities, and food imports account for 35 percent of the island's annual imports. No more than half the annual food requirement is domestically produced. Under Ceylon's 10-Year Plan for economic development self-sufficiency in rice production is aimed for by 1968. The relatively rapid rate of population growth has made development of the economy difficult.

TABLE 4.--Principal crops: Acreage and production in Ceylon, 1959

Crop	Acreage	Production
	<u>1,000 acres</u>	<u>1,000 m. t.</u>
Rice, milled	1,000	505
Coconuts	1,232	<u>1/</u> 452
Tea	576	187
Rubber	661	90
Other crops	361	319

1/ Copra equivalent.

Livestock industry - Religious considerations have retarded the development of animal husbandry. Buffaloes and cattle are kept for draft purposes.

Most cattle are of the indigenous Sinhala breed, which is small and hardy but poorly adapted for milk, beef, or draft purposes. Efforts are being made to upgrade these cattle by importing stock from the United Kingdom, Australia, and India.

Livestock slaughter is regulated and only licensed slaughterhouses may slaughter legally. A shortage of draft animals has resulted in government restriction of buffalo slaughter.

TABLE 5.--Livestock: Number in Ceylon, 1958

Type	:	Number
	:	<u>Thousands</u>
Cattle	:	1,450.2
Buffaloes	:	789.4
Goats	:	471.3
Sheep	:	65.1
Swine	:	43.2

Irrigation - Irrigation is used principally for rice production. Generally irrigation is accomplished through a gravity flow system of channels and ditches. In the Wet Zone, water for irrigation comes from the streams and little or no storage facilities are required. However, in the Dry Zone many of the rivers (except those arising in the Wet Zone) dry up in periods of extended drought. Numerous water storage ponds have been developed over many centuries of rice cultivation.

Multiple cropping - In those areas with two peak periods of rainfall each year, double cropping of rice lands is very common. During the 1954-55 crop season about 40 percent of the rice land was doubled cropped, but this percentage was much higher in the Wet Zone and much lower in the Dry Zone. Crop rotation is not generally practiced.

Interplanting of crops is commonly practiced particularly in village gardens. Food crops including vegetables, pulses, certain grains, chillies, and root crops are planted under some tree crops such as coconuts, jakfruit breadfruit, areca nut, and bananas.

Mechanization - Most paddy plots are too small to accommodate farm machinery. The crops produced for export--tea, rubber, and coconuts are labor intensive.

A recent estimate places the number of agricultural tractors at 1,000. The government established a tractor station at Anuradhapura with 193 tractors operating through the station in 1956. Six cooperative unions had a total of 94 tractors that were rented at standardized rates in 1956, but heavy repair bills and low rental rates made this operation uneconomical.

Index of agricultural production (1952-54=100) - In 1959, the overall agricultural production index was up to 111, while the per capita index had dropped to 96.

FOOD CONSUMPTION

Daily per capita calorie consumption - 2,200 (1955-56). Although low by Western standards, this consumption level compares favorably with many other countries in Asia.

Staple foods - Rice, coconuts.

Nature of diet - Cereals and starches accounted for about 62 percent of the daily caloric intake. Rice alone supplied 46 percent of the total calories consumed. Consumption of wheat flour increased during World War II when rice was in short supply, but more recently wheat consumption has trended downward. Coconut products rank second to rice as a food. The nuts are consumed fresh or cooked, and coconut oil is the principal cooking oil. These products together supply about 17 percent of the total caloric intake.

AGRICULTURAL TRADE

Annual value of agricultural exports - \$350 million.

Agricultural share of total exports - Over 95 percent.

Per capita agricultural exports - \$37.

Annual value of agricultural imports - \$130 million.

Agricultural share of total imports - Over one-third.

Per capita agricultural imports - \$14.

Major agricultural export commodities - Tea, coconut products, and rubber account for 90 percent of Ceylon's foreign exchange earnings.

Major agricultural import commodities - Rice, wheat flour, sugar, and dairy products.

Principal agricultural markets - United Kingdom and other Commonwealth countries.

Principal agricultural suppliers - United Kingdom, United States, Burma, Thailand, and Communist China.

Trade with Bloc countries - For a number of years Ceylon has had a bilateral trade arrangement with Communist China whereby China supplies Ceylon with rice and Ceylon supplies China with rubber. The most recent agreement has seen a reduction in the volume of trade each way, Ceylon having found better arrangements elsewhere for rice.

Role of Public Law 480 - As of December 31, 1959, Ceylon and the United States have entered into Title I agreements in the amount of \$21.0 million

(market value including ocean transportation). This amount has included: wheat flour \$5.9 million and rice \$11.9 million (ocean transportation \$3.2 million).

Transfer authorizations under Title II as of June 30, 1959, totaled \$8.2 million; this consisted of \$4.8 million in wheat flour and \$3.4 million in rice. The cumulative value of agricultural commodities exported to Ceylon under barter contracts as of June 30, 1959, totaled only \$1.1 million.

TABLE 6.--Ceylon: Total agricultural trade, 1958

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Tea	237.5	::	Rice, unmilled	49.9
Rubber	54.2	::	Wheat flour	14.1
Coconut products:		::	Sugar	17.7
Oil	11.5	::	Dairy products	11.6
Copra	6.2	::	Pulses	9.4
Desiccated	15.4	::	Dried chillies	4.6
Other	7.1	::	Potatoes, white	3.5
Total	40.2	::	Onions	3.7
Other	10.5	::	Other	14.4
Total agricultural	342.4	::	Total agricultural	128.9
Nonagricultural	16.8	::	Nonagricultural	231.2
Grand total	359.2	::	Grand total	360.1

TABLE 7.--U.S. - Ceylon agricultural trade: Value of imports and exports, 1958

U.S. exports to Ceylon	: Value	::	U.S. imports from Ceylon	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Malted milk compounds .....	.2	::	Tea	18.9
Fruits and prep. ....	.04	::	Rubber	5.9
Rice, milled	7.4	::	Pawpaw juice .....	.4
Wheat flour	5.1	::	Cinnamon, unground .....	.3
Tobacco .....	.6	::	Pepper .....	.05
Food for relief or charity.	2.1	::	Citronella oil .....	.09
Other agricultural .....	.06	::	Cinnamon leaf oil .....	.08
Total agricultural	15.5	::	Coconut, desiccated .....	.18
Nonagricultural	6.3	::	Other agricultural .....	.3
Grand total	21.8	::	Total agricultural	26.2
		::	Nonagricultural .....	.7
		::	Grand total	26.9

AGRICULTURAL AND TRADE POLICY

Trade policy - The Ceylonese Government has released the details of a 10-year development plan that has as its goal a 35-percent increase in export earnings to be gained largely through substantial expansion of the production and export of its basic commercial crops--tea, rubber, and coconut products.

The government regulates imports through a license system designed primarily to protect foreign exchange, but also to "Ceylonize" trade. To enforce its "Ceylonization" policy, the country's trading partners have been encouraged to appoint Ceylonese as agents in Ceylon for goods originating in the country of the contracting party.

Agricultural policy - A guaranteed price for paddy to producers has been in effect since 1948. It is designed to furnish an incentive to increase production and thereby reduce the country's dependence on imports. Retail prices of rice, wheat flour, bread, and sugar have been partially or totally controlled since World War II; prices of other commodities have been free since 1948, except for brief periods.

The major objectives of Ceylon's agricultural policies are to increase output of tea, rubber, and coconuts by extensive replanting or rehabilitation. The dependence on imported rice is to be reduced or eliminated by increasing domestic production. A more diversified agriculture is aimed for by encouraging the production of other food crops and livestock. It is hoped diversification of agriculture will result in greater self-sufficiency in food production.

POLITICAL SETTING

Type of government - Ceylon has a constitutional government patterned after the British model.

Political history - The island became a Crown Colony in 1802 having previously been part of the former Presidency of Madras, India. The British granted universal suffrage in 1931 and drew up a constitution in 1946. On February 4, 1948, Ceylon assumed Dominion status.

INDIA

POPULATION

Total - 419 million, October 1, 1959.

Rural - 70 percent.

Annual rate of growth - 2.0 percent.

Density - 323 per square mile; State of Kerala is 1,000 per square mile; Ganges Valley 660 per square mile.

ECONOMIC SETTING

Gross national product - \$29.2 billion (1958-59).

Agricultural share of GNP - 47 percent.

Estimated average annual rate of growth - 3.5 - 4.0 percent.

Per capita GNP - \$71; per capita income, \$63.

Gold and foreign exchange holdings - \$814 million (includes \$247.0 in gold) December 1959.

Economic assistance - External assistance has become one of the major factors in India's economic development. To enable India to achieve the targets fixed in the Second 5-Year Plan and bridge the gap in its balance of payments, a number of friendly countries and international agencies have been making generous contributions of equipment and commodities and supplying technical experts in various fields of India's development programs. The agricultural sector of the economy is one of the largest recipients of foreign assistance, with the United States the biggest contributor.

Much of the U.S. aid India receives is under Title I, of Public Law 480. Surplus U.S. agricultural products programmed for sale to India for rupees have amounted to \$927 million through 1959. About 80 percent of the local currencies generated from the sale have been set aside for use by India in the form of grants and loans for economic development. Cumulative U.S. financial aid, including local currency loans and grants, has exceeded \$1.6 billion as of the end of 1959.

Trade as percent of GNP - 10 percent.

Trade balance - India has suffered unfavorable balances of trade for several years, but the deficits since the start of its Second 5-Year Plan have been particularly large, owing to huge imports of capital goods needed in its development programs and food grain imports required for its expanding population and economy.

PHYSICAL CHARACTERISTICS

Location - India occupies the greater portion of the subcontinent of India and extends as a peninsula into the India Ocean to the south. The country is bordered on the northwest by Pakistan, on the northeast by Communist China and Nepal, on the southwest by the Arabian Sea, and on the southeast by the Bay of Bengal.

Area - 1,299,000 square miles.

Agricultural area - 385 million acres, including double cropping.

Arable land per capita - 0.92 acre, including double cropping.

Topography - India contains a large part of the Indo-Gangetic Plain, which extends from the Bay of Bengal to the Afghan frontier and the Arabian Sea. This plain is the richest and one of the two most densely populated parts of the Indian subcontinent, containing more than half the population. Another distinct natural region is the Deccan Plateau, 2,000 to 3,000 feet elevation, occupying the southern or peninsular portion of the country.

Climate - India extends from about 7°N to 36°N latitude, but despite this great distance, temperature variations throughout the country are not large. The Himalaya Range across the north part of India acts as an effective shield to the cold air of central Asia. However, rainfall does differ. The areas of heaviest precipitation are in the Ganges Valley and along the coastal areas of West India. Rainfall averages over 60 inches in these places, while in Punjab, Rajasthan, and in other parts of western India rainfall is under 30 inches. The Deccan Plateau received 30-50 inches annually.

The two main agricultural seasons in India are the Kharif season, which begins in June with the arrival of the moisture-laden southwest monsoon and the Rabi season with its low moisture northeast monsoon, starting in December.

Soil types - There are four main classes of soils in India. The alluvial soils, the most important agriculturally, are found in a broad band across the top of India. The black soils, which are important for cotton production, occur in western central India. The red soils occupy most of the peninsular portion of India. The laterite soils which were formed under tropical conditions of heavy rainfall, are found along the western and eastern ranges of mountains in central India and in the extreme northeast portions of the country.

AGRICULTURAL PRODUCTION

Average size of farms - The average size of land holding is about 5 acre. Rice farms usually are much smaller than this but wheat and sorghum farms are larger.

Land tenure - The 1951 Census gives the following breakdown of agricultural cultivators:

	Percent
1. Cultivators of land wholly or mainly owned	64.4
2. Cultivators of land wholly or mainly unowned	12.3
3. Cultivating laborers	21.0
4. Noncultivating owners of land and other agricultural rent receivers	2.3
	100.0

About two-thirds of the Indian farmers either own the land they cultivate or have a high degree of possession rights, including being able to bequeath it to heirs.

Agricultural self-sufficiency - At the end of the First 5-Year Plan, the Government of India felt that it had reached self-sufficiency in many food items. But after two short crop years, it was realized that population was increasing faster than anticipated and per capita consumption was growing along with economic development. Thus, foodgrain imports had to be stepped up. Foreign exchange reserves and port facilities have limited the size of the import program, but concessional sales, such as Public Law 480, have allowed for wheat imports of 2.5 million to 3 million tons in recent years.

Acreage and production of major crops - India, one of Asia's most important agricultural countries, had a very successful crop year in 1959.

Rice production was estimated at 3 percent above the previous peak of 30.2 million metric tons in 1958. Wheat production set a record of 9.8 million tons, almost 2 million tons over 1958. Pulses, important in the Indian diet, produced a record 12.4 million tons in 1959. Production of most of the other food grains was also high.

TABLE 8.--Principal crops: Acreage and production in India, 1958-59

Crop	Acreage	Production
	1,000 acres	1,000 m. t.
Rice, milled	81,590	30,198
Wheat	30,966	9,850
Jowar	42,608	8,779
Bajra	27,905	3,852
Corn	10,314	3,038
Barley	8,164	2,682
Small millets	12,156	2,081
Gram	28,840	6,936
Other pulses	28,240	3,780
Peanuts	14,481	4,893
Cotton	19,825	837

Livestock industry - Cattle play an important part in Indian agriculture, being used mainly for power, but secondarily, they furnish fuel and fertilizer also. Their production is in the hands of the small farmers and, therefore, is subsidiary to production of food or cash crops. Many animals are underfed and unproductive because of the limited supply of food.

Milk is the only animal protein food that is commonly used throughout India. Religious beliefs prohibit the slaughter of cattle and as a result many old and useless cattle put added strain on the food supply.

TABLE 9.--Livestock: Number in India, 1956

Type	:	Number
	:	<u>Millions</u>
Cattle	:	158.9
Buffaloes	:	44.8
Sheep	:	38.7
Goats	:	56.6
Horses	:	1.5
Other	:	6.6
Poultry	:	<u>97.4</u>
Total	:	404.5

Irrigation - Irrigation agriculture is extremely important to India, comprising over a fifth of the cultivated land area. Fifteen million acres were put under irrigation during the First 5-Year Plan, making a total of 67 million acres under irrigation in 1958. Four million acres are being added each year, therefore, it is expected that at the end of the Second 5-Year Plan (1960-61) 88 million acres will be under irrigation.

Irrigation is being extended by smaller projects, such as irrigation reservoirs and tubewells, but most of it by major multipurpose projects that provide for irrigation, flood control, and hydro-electricity. The Bhakra-Nangal Project on the Sutlej River, the Damodar Valley and Mayurakshi Projects in West Bengal, and the Hirakud Dam Project on the Mahanadi River in Orissa are examples of recent major undertakings.

In the crop year 1953-54, 33 percent of the rice, 36 percent of the wheat, 9 percent of other food grains, 70 percent of the sugarcane, and 8 percent of the cotton were under irrigation.

Multiple cropping - Double cropping is practiced on only about one-seventh of the cultivated land. This is quite low in view of the pressing need of food crops. Rainfall limits the area that can be double cropped, as irrigated areas do not usually have sufficient water storage capacity for two crops in one year.

Mechanization - The Indians use very little farm equipment that is familiar to Americans. Some tractors and other modern implements are used on government projects and large farms, but the common cultivating tools of the

Indian farmer are either designed for bullock power or are hand tools. Even these are primitive. Most are made of wood and tipped with iron or steel. It was estimated in 1950 that only 1 percent of the agricultural power used on farms was mechanical.

Level of productivity - Production of food grains and pulses in 1959 is estimated at over 76 million metric tons, owing mostly to very good weather. This compares with 69.3 million tons in 1958 and 67.1 million in 1957. It is about 6 million tons short of the Second Plan target of 81.8 million tons which India hopes to reach by April 1961.

Index of agricultural production (1952-54 = 100) - The agricultural production index stood at 118 as compared to 111 in 1958 and 108 in 1957.

AGRICULTURAL TRADE

Annual value of agricultural exports - About \$535 million.

Agricultural share of total exports - 45 percent.

Annual per capita agricultural exports - \$1.30.

Annual value of agricultural imports - \$495 million.

Agricultural share of total imports - 26 percent.

Annual per capita agricultural imports - \$1.20

Major agricultural export items - Tea is the leading export commodity. However, cotton, cashew nuts, tobacco, wool, and spices are also important.

Major agricultural import items - Wheat is the principal imported commodity, followed by cotton, rice, copra, and nonfat dry milk.

Principal agricultural markets - United Kingdom, United States, Japan, Russia, and Australia.

Principal sources of agricultural imports - United States, Burma, Malaya, and Canada.

Trade with Bloc countries - Trade agreements have been entered into with the USSR, Rumania, Communist China, East Germany, Bulgaria, Yugoslavia, and Czechoslovakia. A special feature of the agreements with the Soviet Bloc countries is the provision of "Rupee Payment" arrangements. Under this arrangement, India can pay for its imports from the contracting countries in rupees to be deposited in a special account in India. These rupees are, in turn, utilized by the foreign country concerned in purchasing Indian commodities.

TABLE 10.--India: Total agricultural trade, 1958

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: <u>dollars</u>	::		: <u>dollars</u>
Tea	286.7	::	Wheat	215.6
Cashew nuts	32.6	::	Rice	92.5
Cotton	31.9	::	Cotton	64.3
Tobacco, unmanuf.	30.9	::	Copra	21.9
Spices	18.5	::	Cashew nuts	15.7
Wool	18.1	::	Fruits	12.6
Coffee	15.1	::	Nonfat dry milk	9.7
Hides and skins	14.7	::	Rubber	6.5
Sugar	7.7	::	Spices	6.0
Linseed oil	6.5	::	Tobacco, unmanuf.	2.9
Castor oil	6.4	::	Other agricultural	46.0
Other agricultural	67.1	::	Total agricultural	493.7
Total agricultural	536.2	::	Nonagricultural	1,321.1
Nonagricultural	661.9	::	Grand total	1,814.8
Grand total	1,198.1	::		

TABLE 11.--U.S. - India agricultural trade: Value of imports and exports, 1958

U.S. exports to India	: Value	::	U.S. imports from India	: Value
	: Million	::		: Million
	: <u>dollars</u>	::		: <u>dollars</u>
Wheat	142.6	::	Cashew nuts	24.1
Cotton, raw	11.4	::	Tea	15.5
Corn, including seed	3.4	::	Hides and skins	4.8
Grain sorghum	3.3	::	Wool	4.5
Tobacco, unmanufactured ...	2.9	::	Pepper	1.6
Nonfat dry milk	2.3	::	Opium	1.4
Other dairy products .....	.8	::	Bristles	1.4
Food for relief & charity .	8.7	::	Essential oils .....	.9
Other agricultural .....	.5	::	Psyllium seed .....	.7
Total agricultural	175.9	::	Other spices .....	.7
Nonagricultural	136.0	::	Walnuts .....	.4
Grand total	312.0	::	Crude bones .....	.4
		::	Other agricultural	3.6
		::	Total agricultural	60.0
		::	Nonagricultural	124.5
		::	Grand total	184.5

Role of Public Law 480 - India has been the largest recipient of U.S. agricultural commodities under Title I of Public Law 480 since the latter became effective in 1954. Public Law 480 sales of these commodities to

India have been important to that nation in its effort to achieve economic development.

Public Law 480 sales have enabled India to purchase with its own currency the extra food and fiber which its diminishing foreign exchange balances would not otherwise have permitted it to buy. Thus, the sales have prevented a serious decline in consumption and averted a complete exhaustion of India's foreign exchange balances. The United States has furnished 8.1 million tons of grain under Title I out of total imports of 10.8 million tons during the 3 years, 1957-59.

About 80 percent of the rupee equivalent of \$967.5 million generated from these sales has been set aside for use by India in the form of grants and loans for economic development. This has given India more than \$800 million to be applied against its investment requirements of the Second 5-Year Plan.

FOOD CONSUMPTION

Per capita daily calorie consumption - Food balance studies have shown India to have a daily per capita caloric intake of between 2,000 and 2,100 calories in recent years. This is below the 2,300-calorie minimum standard developed by FAO.

Staple foods - Rice and wheat accounted for 44 percent of the total caloric intake in a preliminary 1958 food balance.

Trends in consumption pattern - A large portion of the diet is composed of food grains, and many of the protective foods are absent. However, it has been estimated that calorie intake has been increased 100 calories in the last 3 years. With increased incomes resulting from economic development programs, diets will probably continue to improve.

AGRICULTURAL AND TRADE POLICY

Agricultural development - India is now in its ninth year of national planning. The current Second 5-Year Plan has 3 significant programs that affect agriculture: Implementing the national agricultural extension service in all of India's villages; increasing total agricultural production 28 percent over 1955-56; and bringing under irrigation 21 million more acres.

Internal market and price regulation - Quality control in the marketing of agricultural commodities is exercised under the direction of the Ministry of Food and Agriculture. Standards have been developed for 115 agricultural products, including ghee, creamery butter, edible oils, eggs, rice, wheat flour, fruits, cotton, wool, bristles, sann hemp, tobacco, and essential oils.

There are 549 regulated markets managed by committees representing producers, traders, and local government bodies. These committees enforce fair trade practices, including the open action system of sales, licensing of

persons operating in the market, deduction of authorized market charges, enforcement of standard weights, and settlement of disputes.

While the government recognizes the importance of support prices not only as a prime factor in market stabilization, but also as an incentive for increased production, an extensive price-support program has not been established. However, from 1954 through 1956 support prices were fixed for some important food grains, and more recently, with the inception of state trading in food grains, the Government of India fixed prices for purchase of different varieties of wheat of fair average quality in the principal wheat-producing states.

Minimum prices payable for sugarcane delivered to sugar factories are fixed by the government each year. These prices are set a year in advance of each season so that growers can plan their production accordingly. Floor and ceiling prices for the principal varieties of raw cotton are also fixed annually.

Trade policy - India's foreign trade policy may be described as one of permitting carefully selected imports and of encouraging but controlling exports along with organized export promotion of specific commodities. It includes supplementary imports of essential raw and semimanufactured materials not produced in sufficient quantities indigenously, and allows large imports of equipment and machinery needed for its development projects; but it provides for tight control over nonessential items and consumer goods.

Tariffs and duties are used only as a subsidiary means of trade control and to earn revenue for the Indian treasury. As a member of the British Commonwealth, India grants certain import tariff preferences to other members and in turn receives certain preferences from other Commonwealth countries. Bilateral trade agreements play a part in determining the volume and direction of trade, and barter is occasionally practiced.

POLITICAL SETTING

India is an independent republic in the Commonwealth of Nations. On August 15, 1947, British India was partitioned into India and Pakistan, mainly on the basis of religion. Since 1950, India has operated under a constitution similar to that of the United States. The President is elected by an electoral college and a Prime Minister is chosen to head a cabinet which advises the President.

The Congress Party, headed by Pandit Jawaharlal Nehru, was successful in the general elections in 1952 and 1957. Dr. Rajendra Prasad has served as Interim President and President since 1950, and Nehru has remained in office since August 1947.

NEPAL

POPULATION

Total - 9.1 million (1959) with 90 percent of the people classed as rural. The annual rate of population growth is 1.5 percent which is somewhat lower than most of the countries in the Far East.

Density - 165 persons per square mile.

ECONOMIC SETTING

Gross national product - \$467 million (1959); up 10 percent from 1957.

Per capita gross national product - \$52 (1959).

Agricultural share of GNP - 85 percent. Nepal was almost completely isolated from the outside world until the early 1950's. The society is dependent on agriculture both for subsistence and as a source of foreign exchange.

Economic assistance - Nepal has been receiving technical and economic assistance from its Communist neighbors--Communist China and the Soviet Union. In 1957, Communist China provided the equivalent of \$12 million for a 3-year period.

The United States has cooperated with Nepal and India in several regional projects financed from Asian Economic Development funds. Obligations in fiscal 1959, exclusive of Asia Economic Development funds, totaled \$2.5 million under the Mutual Security Program. This includes loans from the Development Loan Fund.

PHYSICAL CHARACTERISTICS

Location - Nepal is situated on the southern slope of the Himalayas, and is bordered on the north by Tibet and east, south, and west by India.

Area - Nepal has a total area of 54,000 square miles (about the size of Illinois). About 25 percent of the area is estimated to be under full or marginal cultivation. Cultivated land is equivalent to less than 1 acre per capita.

Physiography - Nepal has three main geographical zones: (1) The Terai--a fertile alluvial plain about 20 miles wide and ranging from 250-600 feet above sea level, (2) an area of rolling hills and small mountain ridges from 2,000-4,000 feet high interspersed with small valleys that extend for the next 20 to 40 miles, and (3) the upper range of the Himalayas, ranging from the Tibetan border south for a distance of about 25 miles. About 80 percent

of the country is mountainous, with 26 peaks over 24,000 feet. The climate and vegetation vary from subtropical in the Terai to alpine in the upper ranges of the Himalayas.

AGRICULTURAL PRODUCTION

Land tenure - The bulk of the agricultural land is leased from large land owners.

Principal crops - Food grains, jute, oilseeds, and tobacco are the main crops. The annual production of rice is around 1,202,000 metric tons. Nepal has a worldwide market for its mountain-grown medicinal herbs.

Livestock industry - Livestock production is of minor importance in Nepal. The latest livestock estimate indicates that there are 2.2 million cows, 1.2 million buffaloes, 1.8 million oxen, and 1.7 million sheep and goats. The latter are raised in the mountainous sections, but most extensively in the western part of the country.

Agricultural technology - Machinery in Nepal is almost unknown. Most tools used by Nepali farmers are crude. Machines and draft animals cannot easily be used on the steeply graded terraced fields. A lack of moisture during the 7-month dry season makes double-cropping very difficult.

AGRICULTURAL TRADE

Nepal's trade in the past has been largely with India. Trade in agricultural commodities with the United States is negligible. Because storage facilities in Nepal are limited, rice must be sent to India for storage.

FOOD CONSUMPTION

Food grains, principally rice, make up the bulk of the total caloric consumption of the average Nepalese. In general, the people do not have an adequate diet in either quantity or quality.

POLITICAL SETTING

Up until 1951 the country was dominated by the ruling Ranas. This autonomous rule was overthrown by a member of the Thapas family, Tribhubana Bir Bikram, who established a popular government in November 1951. King Tribhubana died in March 1955 and his son, Mahendra Bir Bikram Shah Dev, was officially crowned in May 1956. Under the latter's reign the first popularly elected government in the history of Nepal came into being.

PAKISTAN

POPULATION

Total - 86.9 million (1959); 55 percent in East Pakistan and 45 percent in West Pakistan.

Annual rate of growth - 1.6 percent (India 2.0 percent).

Density - 235 persons per square mile; West Pakistan 124 and East Pakistan 864 (60 persons per square mile for the United States).

ECONOMIC SETTING

Gross national product - 5.8 billion (1958).

Agricultural share of GNP - Approximately 60 percent.

Annual rate of growth - 1.5 percent from 1950-58.

Per capita GNP - \$65 (1958).

Gold and foreign exchange - \$258 million (1958), down considerably from the high level of \$505 million of 1951.

Economic assistance (grants and loans) - \$148 million in 1958. As of June 30, 1959, the United States has provided a total of \$1.35 billion in economic assistance.

Trade as percent of GNP - Approximately 12 percent (1958).

Trade balance - Pakistan has had a consistently deficit balance of trade since 1956. In 1958 the deficit was \$98 million.

PHYSICAL CHARACTERISTICS

Location - Pakistan occupies two zones in the northwest and northeast corners of the Indian subcontinent, separated by 1,000 miles of India.

Area - 365,000 square miles, or 234 million acres; 54,500 square miles in East Pakistan (35 million acres) and 310,500 square miles in West Pakistan (199 million acres).

Agricultural area - Pakistan contains a total of 60 million arable acres; 22 million acres in East Pakistan and 38 million acres in West Pakistan.

Arable land per capita - 0.7 acre.

Topography - The province of East Pakistan is a vast unbroken plain, except for hills in the southeastern and northeastern areas. The province is principally a river-built alluvial plain. West Pakistan's topography varies from snow-capped Himalayas in the north to the desert in the south.

Climate - East Pakistan is within the monsoon belt. The average rainfall, which is concentrated in the June-September period, ranges from 50 inches in the northwestern part to 135 inches in the hill area. West Pakistan is characterized by hot summers and cold winters. The average rainfall for much of the cultivated area is less than 20 inches a year.

AGRICULTURAL PRODUCTION

Average size of farms - Less than 5 acres in West Pakistan and less than 2 acres in East Pakistan.

Land tenure - Land reform in West Pakistan currently in progress envisages the redistribution of 1.25 million acres among 100,000 landless tenants. In East Pakistan, land reform was implemented in 1956.

Agricultural self-sufficiency - At one time Pakistan produced enough food grains; however, in recent years, over a million tons have been imported annually.

TABLE 12.--Principal crops: Acreage and production in East Pakistan and West Pakistan, 1958-59

Crop	East Pakistan		West Pakistan		Total	
	Area	Production	Area	Production	Area	Production
	1,000	1,000	1,000	1,000	1,000	1,000
	acres	m. t.	acres	m. t.	acres	m. t.
Rice	19,671	6,632	2,820	973	22,491	7,605
Wheat	98	25	12,070	3,819	12,168	1/3,844
Bajra	--	--	1,971	308	1,971	308
Jowar	--	--	1,105	218	1,106	218
Corn	5	1	1,135	472	1,140	473
Barley	60	14	482	132	542	146
Gram	143	38	2,997	635	3,140	673
Sugarcane ..	244	3,896	1,051	11,770	1,295	15,666
Cotton	51	3	3,255	272	3,306	275
Jute	1,528	1,088	--	--	1,528	1,088
Tea	76	24	--	--	76	24

1/ Excludes summer rice crop of East Pakistan.

TABLE 13.--Livestock: Estimated number in East Pakistan and West Pakistan, 1959

Type	East Pakistan	West Pakistan	Total
	Million	Million	Million
Cattle	14.7	9.6	24.3
Buffaloes .....	.6	5.0	5.6
Sheep .....	.2	6.0	6.2
Goats	4.2	5.9	10.1

Irrigation - Although statistics are not available, much of East Pakistan's cultivated land is irrigated. In West Pakistan an estimated 30 million acres of land are under irrigation. The Indus River system with its four tributaries, the Jhelum, Chenab, Ravi, and Sutlej, supplies irrigation water through an extensive canal system.

Multiple cropping - Double cropping is possible but limited. In the irrigated area of West Pakistan, two crops a year may be grown, a summer crop and a winter crop.

Mechanization - Although a few tractors have been introduced on larger farms the bullock is still the principal source of power.

Index of agricultural production (1952-54 = 100) - In 1959, the overall agricultural production index was 110, while the per capita index had dropped to 98.

FOOD CONSUMPTION

Daily per capita calorie consumption - In recent years, the daily per capita caloric intake has been 1,980 calories. This is far below the 2,300 calories recommended by FAO for inhabitants of this area.

Staple foods - In West Pakistan, wheat is the principal item of diet and in East Pakistan it is rice. Protective foods (vegetables, fruits, and animal protein) provide about 16 percent of the total caloric intake.

AGRICULTURAL TRADE (1958)

Value of agricultural exports - Approximately \$200 million.

Agricultural share of total exports - Approximately 64 percent.

Per capita agricultural exports - \$2.46.

Value of agricultural imports - Approximately \$130 million.

Agricultural share of total imports - 36 percent.

Per capita agricultural imports - \$1.80.

Major agricultural export commodities - Jute accounts for 50 percent of all exports. Other important commodities are wool, cotton, hides and skins, and tea.

Major agricultural import commodities - Food grains (rice and wheat) are the leading imports. Other important import items are sugar, fruits, nuts, and livestock products.

Principal agricultural markets - Pakistan's important markets for cotton, jute, and wool are United Kingdom, United States, Japan, India, France, Hong Kong, and Communist China.

Principal sources of agricultural imports - United States, Burma, Thailand, Australia, Canada, and Cuba. All supply wheat and rice except Cuba and it supplies sugar.

TABLE 14.-- Pakistan: Total agricultural trade, 1957

Agricultural exports	: Value	::	Agricultural imports	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Cotton	6.7	::	Dairy products	3.2
Jute	163.9	::	Rice, milled	58.0
Tea	5.1	::	Wheat	58.1
Lamb, kid, sheep and		::	Pulses	1.0
goat fur	7.1	::	Fruits, nuts, veg.	1.7
Fats, oils, and oilseeds ..	3.7	::	Sugar	16.3
Wool	21.7	::	Fats, oils and oilseeds ..	2.1
Other agricultural	5.9	::	Other agricultural	16.3
Total agricultural	<u>214.1</u>	::	Total agricultural	<u>156.7</u>
Nonagricultural	<u>122.6</u>	::	Nonagricultural	<u>283.5</u>
Grand total	<u>336.7</u>	::	Grand total	<u>440.2</u>

TABLE 15.--U.S. - Pakistan agricultural trade: Value of imports and exports, 1958

U.S. exports to Pakistan	: Value	::	U.S. imports from Pakistan	: Value
	: Million	::		: Million
	: dollars	::		: dollars
Wheat	45.2	::	Jute and jute butts	7.7
Rice	14.1	::	Wool	7.2
Dairy products	2.1	::	Hides and skins	1.6
Cotton, raw	1.6	::	Persian lamb	1.2
Food for relief and charity	1.1	::	Cotton, raw	1.2
Other agricultural	1.2	::	Goat hair .....	.5
Total agricultural	<u>65.3</u>	::	Other agricultural	<u>.2</u>
Nonagricultural	<u>46.6</u>	::	Total agricultural	<u>19.6</u>
Grand total	<u>111.9</u>	::	Nonagricultural	<u>7.0</u>
	:	::	Grand total	<u>26.6</u>

Trade with Bloc countries - Has amounted to between 3 and 4 percent of total annual exports. Pakistan exports jute and cotton to the Bloc in return for manufactured goods.

Public Law 480 programs - Pakistan and the United States entered into Title I commodity agreements in the amount of \$272 million between July 1954 and December 1959. This amount has included wheat \$124 million, rice \$65 million, fats and oils \$13 million, cotton \$30 million, and dairy products and tobacco \$5 million each.

AGRICULTURAL AND TRADE POLICY

Agricultural development - Pakistan has announced a second 5-Year Plan (1960-65) for economic development to go into effect July 1, 1960. The new plan includes among its objectives: (1) An increase of 20 percent in the national income and 10 percent in per capita income, (2) an increase of 50 percent in industrial production, (3) the acceleration of current projects, (4) additional employment for about 3 million persons, and (5) the reduction of economic disparities between East and West Pakistan.

Agricultural policy - Wholesale prices and retail margins are fixed on many commodities. Fixed price supports for crops do not exist in Pakistan as such. The government does, however, subsidize 50 percent of the cost of fertilizers to the farmers.

Trade policy - Pakistan's foreign trade is controlled by means of quotas and licensing. Import tariffs are used to protect domestic industry and to earn revenue for the treasury. Export duties are maintained on jute and cotton and are an important source of revenue. As a member of the British Commonwealth, Pakistan grants and receives certain preferences from other Commonwealth countries. Trade agreements play a part in determining the volume and direction of trade.

In an attempt to accelerate exports the Pakistan Government has adopted an Export Bonus Scheme. Under this scheme an exporter of agricultural products (except jute, cotton, wool, and tea) is eligible to receive 20 percent of the total foreign exchange earned in the form of import certificates. The exporters of manufactured goods are entitled to receive 40 percent of the foreign exchange earned; exceptions are exporters of cotton and jute goods, who are entitled to only 20 percent of the foreign exchange earned. The holders of import certificates are free to buy and sell them within the country or use them for imports of authorized commodities.

POLITICAL SETTING

Type of government - Pakistan's constitution was abrogated in November 1958 when Mohammed Ayub Khan took control of the government. A new constitution is to be formulated in the near future.

Political history - The nation was created in 1947 when the predominantly Muslim states of India voted for the creation of a separate political entity. Originally both Muslims and Hindus were allied in their efforts to attain independence for India. However, during the 40's the Muslim League lead by Mohammed Ali Jinnah split with the Indian Congress and began agitation for a separate state for Muslims.

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